

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A semiconductor optical integrated device, comprising:
a light-generating region for generating light with a predetermined wavelength; and
a light-modulating region having a first facet for outputting light generated in said light-generating region and modulated in said light-modulating region,

wherein said first facet provides a coating including a first layer in physical contact with said light-modulating region and a second layer in physical contact with said first layer and in at least indirect physical contact with said first facet, said first layer having a first refractive index and a first thickness, said second layer having a second refractive index greater than said first refractive index and a second thickness less than the first thickness,

wherein said first layer is made of material selected from a group of silicon nitride, silicon oxide, silicon oxo-nitride and aluminum oxide formed by an ion-assisted evaporation technique, and said second layer is being made of material selected from a group of titanium oxide and tantalum oxide, and

wherein said coating shows an anti-reflection characteristic at said predetermined wavelength, and

wherein a total thickness of said first layer and said second layer is less than a quarter of said predetermined wavelength.

2-4. (Cancelled).

5. (Original) The semiconductor optical integrated device according to claim 1, wherein said light-generating region and said light-modulating region further comprise an InP substrate, an n-type InP layer provided on said InP substrate, an active layer provided on said n-type InP layer, and a p-type InP layer provided on said active layer.

6. (Currently Amended) A semiconductor optical device, comprising:
a light-generating region for generating light with a predetermined wavelength;
a first facet; and
a second facet, said first facet and said second facet sandwiching said light-generating region therebetween,

wherein said first facet provides a coating including a first layer in physical contact with said light-generating region and a second layer in physical contact with said first layer and in at least indirect physical contact with said first facet, said first layer having a first refractive index and a first thickness, said second layer having a second refractive index greater than said first refractive index and a second thickness less than said first thickness,

wherein said first layer is made of material selected from a group of silicon nitride, silicon oxide, silicon oxo-nitride and aluminum oxide by an ion-assisted evaporation technique,
and said second layer is being made of material selected from a group of titanium oxide and tantalum oxide by said ion-assisted evaporation technique, and

wherein said coating shows an anti-reflection characteristic at said predetermined wavelength, and

wherein a total thickness of said first layer and said second layer is less than a quarter of said predetermined wavelength.

7-9. (Cancelled).

10. (Original) The semiconductor optical device according to claim 6,
wherein said light-generating region further comprise an InP substrate, an n-type InP layer provided on said InP substrate, an active layer provided on said re-type InP layer, and a p-type InP layer provided on said active layer.